



BEST PRACTICES COURSE – ArchiCAD 17 - AC 17 New Interface Tutorial

Hello, this is Eric Bobrow. In this ArchiCAD video tutorial, I will show you how the ArchiCAD 17 interface works in comparison with previous versions. This is useful both for experienced users who are migrating from an earlier version and are getting used to understanding how things are changing ArchiCAD 17. It's also useful for new users who may be watching all the video tutorials and find it a little bit confusing how things look different onscreen than what we they are seeing in ArchiCAD 17. You'll notice here that I have ArchiCAD 17 arranged in an odd way with gaps onscreen. I have done that deliberately because if I bring up ArchiCAD 16, I've arranged it so that this fills in the gaps. And when I show both of them together, you will see two tool boxes, two info boxes, and two toolbars. [0:00:54]

Now to reduce the confusion I'm going to use a little onscreen tool for drawing. We'll indicate that this is the ArchiCAD 17 toolbox, this is the ArchiCAD 17 info box, and this is the ArchiCAD 17 toolbar. So now I'm going to go and actually start working with this here in ArchiCAD 17 and ArchiCAD 16. Here we have the two info boxes; they are both set for the arrow tool and look exactly the same. If I go to the Marquee tool they look the same as well. However, when we go to the wall tool, they look significantly different. There's a cosmetic difference in that the layer popup list is in a smaller font. That means you can see more layers and more of the layer names than you could previously. But more significantly, after the geometry methods, the construction methods start to really look different. And the choices for the wall types really work quite differently. [0:02:01]

To understand this it might be best to open up the wall dialog boxes in both 16 and 17 and compare them. Now in version 16 and earlier, we have a choice of setting the base and top height of the wall as well as the thickness of the wall and a reference line offset. This would potentially being able to draw the face of framing inset a certain distance from the face of the wall. And we can set the cut fill of the wall here where we would choose either a generic fill like background, which would be no hatching at all or simple poché, 50% or 75%. Or a simple type of fill representing concrete or some other building material. Or a composite structure made of multiple components. So all of these choices are available from the cut fill. [0:2:56]

In ArchiCAD 17, we have more sophisticated controls. The wall top can be linked to the story above or possibly even two stories above or more. We can choose which story it might be linked to. If it's linked with a zero offset to that story, that means it will go right up to the reference line of that story above. And if the story structure changes, the wall will get taller or shorter. If on the other hand I say "not linked", then we can set the height just like we had previously. Now with the wall type, we can choose first basic walls, then composite walls or complex profile walls. If we choose a basic wall then we have a choice of what type of building material it would be. If we want something generic, we can choose (here in the U.S.) generic exterior or interior materials. In the international version they have somewhat different names, but there are a set of generic materials that you can use if you are not sure what is going to be. [0:04:13]

You can make something like a concrete wall or concrete masonry unit. You can have something like plywood or tiles or things like that; and sometimes you might make a thin layer of a wall for a special



effect like that. But mostly I'd say you would either go with one of these generic ones or a real structure like structural concrete. When you're ready, you can switch to picking a composite and then pick one of the ones that has been defined in this file. These are the ones from the U.S. residential template. In other templates you may see more or different settings for this, but the basic idea is that you can choose between basic walls or composite walls or complex profiles. You can see the preview changes here and then here, these are walls with more complex shapes that you can draw in a single step. In the previous versions, in order to do that, you would change it here. And then you would have the choice of a profile similarly. [0:05:18]

So that's a slightly different change there, but a rather significant change in that you have to choose which one of these you want and then you get a shorter list that is focused on just that type. You'll notice that in previous versions we have the surface appearance controlled by the materials. So this list of materials would give the color or texture to the surface. In ArchiCAD 17, the default or the recommended common thing to do is have the surface based on the building material. So if it's made of a generic material that has predefined color or appearance, if it's made of concrete it will have a certain material. But you could say you want to paint it or color it on one side or on both sides with whatever you want. So you could override the building materials with a surface which would be exactly the same thing as the materials in previous versions. [0:06:19]

In the international version of ArchiCAD, you will have different names for these but it's exactly the same concept whether you override it or not. Now let's just take a look at how this looks in the info box. So in the info box, previously when you wanted to choose what wall type you would go to the floor plan and section and then choose whether you wanted it to have a simple fill or a more complex one or a composite one here. But this only affected the section cut through. Basically on the floor plan and in section, the appearance would be controlled here by these controls for the materials. In ArchiCAD 17, the setting as I said you choose between which type of wall you want, then you choose from the popup of available walls. And then you can say that the surface color is going to be the building materials or that you are going to overwrite it. [0:07:20]

So those are where those controls live in the info box. In terms of the top, again, we can have it not linked and type in a height, or you can have it linked and it then becomes fixed. Instead of being full height to the next story, it could be an offset to the top of the reference; in this case, the story that it's linked to. And then you can say if you want to make it 1 foot or 300 mm below the story above to allow for ceiling and framing and things like that. Now changing it from one of these to the other doesn't actually change the height of the wall, it simply changes the controls. Changing it from not linked to linked doesn't change the height, it just changes whether it's going to adjust if the story height changes. [0:08:13]

You'll also have a final option here in that you can reference some other height data points. So in the U.S. we might be referring to things above sea level here. In some cases, you might work with the altitude, which can be similar to sea level or slightly different. You could be working with the other height datum points like the Australian Height Datum. You'll notice here when I select the altitude it's starting at 25 feet. This is set under the Options, Project Preferences, Reference Levels, where we can say what the altitude is. So the altitude datum point in this case is 25 feet below the project zero. So by



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adjusting that you can make sure that you are able to reference some altitude as needed. And you can rename these. You can call this AHD for Australian Height Datum and things like that. [0:09:12]

All of these things are adjustable. We had equivalents of these before, but now we have a little bit more control to be able to choose what we're going to see here. You'll notice that there isn't a choice in the info box in earlier versions of ArchiCAD for which reference point you are seeing here. So this has become a little bit more sophisticated. We've gone through most of the changes in this basic info box. If we go through things like the door tool, you'll see it looks pretty much the same. In the floor plan and section there are some options here that we are going to see. Here's the floor plan and section here, and we have similar options as we had before. It's just been moved over into a different place. Doors and windows, the main change - and let's just go ahead and pop in a wall here. [0:10:06]

So when I draw a series of walls like that and pop in a door, in previous versions we had center or corner. Now we have center, left or right. So when I zoom in on this and I click here, it's already set on whichever corner it is. That has to do with which way the wall is facing. So let's undo this and look at how the wall is drawn. If I'm drawing this as a single wall and I start to draw this along, you can see that the wall right body is above it. Previously we had the left, right, center. Now we have flip as an option. You'll notice how it's now giving me the wall body underneath it. If I click again, it's remembering that. So similar to what we had with left, right, center in that it remembers it. But you'll notice that this is gray in between. It's only when a wall is selected or when we're in the middle of drawing it that we can actually flip it on the reference line here. [0:11:18]

It's a little odd, you will get used to it. I'm not quite sure why Graphisoft changed this to not be available until you're actually drawing or you select something here. And if we have a composite wall here then we have choices as well for the reference, whether it's the outside or inside or center of the body of the wall or possibly the outside of the core. So if I do the outside of the core it's referencing that regardless of whether I flip it. You'll notice how the rubber band line is still staying in relationship to that. Let's go ahead and draw this with it flipped other way. When I'm placing the door or window again we have this left, right, center. So if I click here we can see that no matter which way I go it's not moving the opening. This determines the actual opening. However, if I flip that, with can't actually change it on the fly, can we? So if we wanted to change this to facing the other way, we could go and use the Move, Mirror this. [0:12:37]

Go across this point here. Or we can mirror this across the center point here. Or we can use the flip button to take it from inside to outside like this. So those are the basic controls you have for placing it where you want it to begin with, and for mirroring or flipping it inside or outside there. Doors and windows do understand the actual outside. You'll notice that there is this little sun symbol and when I go down here it's indicating which side it thinks is the outside of the door or window. So you have to be a little careful about that to make sure that it's giving you what you want. This will affect things like the casing and trim if you have different surfaces, different paints, or things like that on them. Now as I go down through the window tool, we'll see that the affects here look much the same, there's just a slightly different organization of it. [0:13:42]



The column tool is going to be much like the wall tool. Instead of fills, we have the materials, and we do have the option of linking the top and adjusting the height. And these are the same controls that we had the wall tool. The beam tool hasn't changed very much except for the building materials rather than the option for the cut fill. And remember that the building materials, the reason that they are there is that they combine several things. If we go to the Options, Element Attributes, and look at - actually let me make sure that I have ArchiCAD 17 open. Options, Element Attributes, Building Materials; it combines the information. Let's go to structural concrete or something like that. [0:14:35]

Here is a structural concrete. It combines the fill that you would see in section or cutting through the element as well as its appearance in terms of the surface, how it will be textured in a 3D view. As well as how strong it is in relationship to other elements so that it will clean up when you have walls joining. And also physical properties; thermal conductivity, so that it can do an energy analysis. So that's why all of these have changed to accommodate that. When we go to things like the slab tool we have similar controls to the wall. We have a choice of a simple slab or a more complex composite one. These are all of the composites that are designated for use with slabs. [0:15:25]

This is generic, the same building material list that we had before. When we are doing a generic, we now have the option for slabs to reference the top or bottom. Previously whatever you set the height to was the top of the slab automatically. Now you can potentially reference the bottom. If you are working with a composite you have the choice of top, bottom, top of core, or bottom of core. So this height that you're specifying is going to actually refer to whatever is most convenient for you in terms of describing that element. So the ultimate result will be a slab positioned in space where you need it but the reference point here can be controlling the core or the surface. [0:16:21]

If you had it set at the top of core and you changed it from one type to another like this, then the actual core would stay at the same level and the sheathing might be at a different height. So this actually gives more stability in the sense of the way these elements can be manipulated. Now if we go to stairs or other objects, really there are only some subtle differences in terms of the way these are organized. Really there is no big difference between them. But going back to a structural element like the roof, we have single elements with building materials or composites. Composites that are designated for use with the roof tool. You don't have that option of linking the top of the roof to another story; it's always going to be the base of the roof that it's working with. [0:17:23]

So unlike slabs we are still limited to the base of the body of the roof being set at a particular height. This is the pivot line is you are specifying in relationship to the story or some other height reference. With shells it's going to look much the same. We just have the building material added in here. Skylights and Objects, basically all of these really are much the same as before. You may wonder about building materials. If I open up let's say an object like this cabinet here, of course it's made of some materials. It's made of wood or stone or things like that. But really when we go into the appearance, what you're controlling is the fill type. Basically what you would see when you cut through it, and the 3D



representation. So if we go to the door, this is the surface appearance of the door. So it's really the same as we had before. I think the rationale is that the building materials are used for energy analysis and for cleaning up the joins for structural components like when walls meet floors. And objects are really sort of independent of that system and are placed into that model next to other things. Now of course sometimes you might inset another object like a cabinet into a wall or things like that. But that's separate from the building materials, that would be more of a modeling operation. [0:19:06]

The zone tool really is much the same as it was. There's no significant difference here. I guess you can link it to the top of it if you are using the zones as 3D volume calculators, then you can link the top of the zone to the next story up, much like a wall. And the mesh tool really hasn't changed except for the use of building materials as opposed to just cut surfaces. As we go through the 2D tools, you will see that they have not changed much, they look much the same as we go through them. So we don't really need to spend any time on that in today's tutorial. Now I'm going to just draw a little bit of a building here because I'd like to show you one new feature that is in the toolbox. [0:19:59]

So in the toolbox let's just flip this here so that I am drawing the outside surface rather than the inside. You see how it becomes gray when I don't have anything selected. Let me go and put in a roof like this. The reason I want to do that is because I want to highlight that there is a new choice here called "3D Cutaway". When I click on that that these little icons show up on the sides. I'll go to 3D and let me just take this roof and raise it up taller so that it looks cleaner there. These 3D cutaway icons show up here in 3D as well. I can click on this, and then move this in and actually cut into the building. When I finalize this, it will actually show this. And you can see the little icon. I can select this and move this on the fly and reposition it at any time I want. [0:21:07]

If I go back to the floor plan, we will see that I cut off part of this building over here. That's what we're looking at. And I can actually adjust these here and perhaps cut off a different side of the building. Then when I go to 3D will see that it's cut off a different part. So we can use these cutting planes here. If I draw this down, I can cut off the top here and look in or cut down through the doors and things like that. This doesn't really affect the model; it just affects the view of the model. And we can turn it off and on by clicking on this icon or using the shortcut Command+Y or Ctrl+Y here. So this is a new feature. We can also delete all cutting planes or do some other manipulation. This is connected to the filter and cut elements in 3D where we can turn on or off certain elements or change the way the edge surfaces are going to look. [0:22:15]

One of my favorites is to use Element Attributes. What that allows you to do, and say OK here, is that if I zoom in on this it will actually see the walls. You can see this wall was made of an exterior fill and an interior fill. And we're actually seeing that as we cut through that. so that is an option that is available when you turn that on under the Filter and Cut Elements in 3D, to use Element Attributes rather than just coloring it black or red or something else there. If I want to turn this off I can simply click on it. Now I've turned it off and I'm looking at the full model in 3D or of course in 2D. You can see how those



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cutting planes went away. The only other change we have here in the toolbar that I've noticed in the standard toolbar is that the ruler icon here - the measure icon is still available, but there's a ruler icon in ArchiCAD 16. So if I go back to ArchiCAD 16 and I click on this, you can see that when I click on it there is a ruler that shows up. [0:22:32]

And as I move my mouse around you can see little lines indicating where I am. As I zoom in or out, these rulers will give me some numeric information. That is something that perhaps people didn't use as much as other tools so Graphisoft removed it from the ArchiCAD 17 toolbar. But if you did want it you to go into the View menu and choose Ruler and you'll see how it shows up here just the same way. So this concludes my tutorial on the new features of ArchiCAD 17's interface. There's a lot to learn about the way that the new building material systems work in section and work for energy analysis and things like that. But this hopefully has explained some of the potentially confusing parts of the way that the info box and dialog boxes work. It gives you some context for why those changes were made. This has been Eric Bobrow. I look forward to reading your comments and questions on the page down below. Thanks for watching.

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